ZOTAC®

INTEL SERIES MOTHERBOARD

D2700ITX SERIES MOTHERBOARD

USER'S MANUAL

Electronic Emission Notices

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions contained in this manual, may cause harmful interference to radio and television communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- REORIENT OR RELOCATE THE RECEIVING ANTENNA
- INCREASE THE SEPARATION BETWEEN THE EQUIPMENT AND THE RECEIVER
- CONNECT THE EQUIPMENT INTO AN OUTLET ON A CIRCUIT DIFFERENT FROM THAT OF THE RECEIVER
- CONSULT THE DEALER OR AN EXPERIENCED AUDIO/TELEVISION TECHNICIAN

NOTE:
Connecting this device to peripheral devices that do not comply with Class B requirements, or using an unshielded peripheral data cable, could also result in harmful interference to radio or television reception.

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

To ensure that the use of this product does not contribute to interference, it is necessary to use shielded I/O cables.

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Trademarks
All brand names, logos and registered trademarks mentioned are property of their respective owners.

CAUTION:
Risk of explosion if the battery is replaced with an incorrect type. Batteries should be recycled where possible. Disposal of used batteries must be in accordance with local environmental regulations.

Table of Contents

Motherboard Specifications ---- **4**
Motherboard Layout ---- **6**
Hardware Installation ---- **10**
Safety Instructions ---- 10
Installing Memory Modules ---- 11
Installing the Motherboard ---- 12
Installing the I/O Shield ---- 12
Securing the Motherboard into the Chassis ---- 12
Installing an mSATA SSD module (optional) ---- 13
Connecting Cables and Setting Switches ---- 14
24-pin ATX Power Connector-PW1 (for ATX version) ---- 15
4-pin ATX_12V Power Connector-PW2 (for ATX version) ---- 15
DC OUT Connector-CN12 (for DC-DC version) ---- 16
SPDIF-Out Header-CN5 ---- 17
COM Header-CN4 (optional) ---- 17
Front Panel Header-FP1 ---- 17
USB Headers-FP_U1 ---- 18
Front Pannel Audio Header-FP_S1 ---- 18
Fan Connectors ---- 19
Serial-ATA (SATA) Connectors (SATA1/2) ---- 19
Expansion Slots ---- 20
Jumper Settings ---- 21
Configuring the BIOS ---- **22**
Enter BIOS Setup ---- 22
Main Menu ---- 22
X-Setting Menu ---- 23
Advanced Menu ---- 24
OnBoard Device Config ---- 24
HDD Storage Configuration ---- 24
CPU Configuration ---- 25
USB Configuration ---- 25
Intel Fast Flash Standby ---- 26
PC Health Menu ---- 26
Power Management Menu ---- 27
Boot Menu ---- 28
Save & Exit Menu ---- 29
Save Changes and Exit ---- 29
Discard Changes and Exit ---- 30
Save Changes and Reset ---- 30

Discard Changes and Reset ----------30
Save Changes ----------30
Discard Changes ----------30
Restore Defaults ----------30
Save as User Defaults ----------30
Restore User Defaults ----------30
Launch EFI Shell from filesystem device ----------30
Flash Update Procedure ----------31
Installing Drivers and Software ----------32
Drivers Installation ----------32
Realtek HD Audio Driver Setup ----------41
Getting Started ----------41
Digital Output ----------41
Speakers ----------43
Microphone ----------44
Line In ----------45
Device Adavanced Settings ----------46
Connector Settings ----------46
Information ----------47

Motherboard Specifications

❑ **Chipset**

❖ Intel NM10

❑ **Size**

❖ Mini ITX form factor of 6.7 X 6.7 inch

❑ **Microprocessor support**

❖ Intel Atom D2700

❑ **Operating systems**

❖ Supports Windows Vista 32bit/64bit and Windows 7 32bit/64bit

❑ **System Memory**

❖ Two 204-pin SO-DIMMs DDR3-1066

❖ Maximum memory size: 4 GB

❑ **USB 2.0 ports**

❖ Supports hot plug and play

❖ Six USB 2.0 ports (four ports on the back panel, two via the USB brackets connected to the internal USB header)

❖ Supports USB 2.0 protocol up to 480 Mbps transmission rate

❑ **USB 3.0 ports**

❖ Supports hot plug and play

❖ Two USB 3.0 ports on the back panel

❖ Fully backward compatible with USB 2.0 and 1.1 specifications

❑ **Onboard Serial ATA ports**

❖ Independent DMA operation on two ports

❖ Two SATAII ports (3.0 Gb/s)

❑ **Onboard LAN**

❖ Support Full Duplex flow control (IEEE802.3x)

❖ 10/100/1000 BASE-T IEEE 802.3 compliant

❖ Wake On LAN (WOL) power management support

❑ **WiFi/Bluetooth support**

❖ Compliant with IEEE802.11n Draft 2.0 Standard

❖ High speed wireless connection and enhanced wireless security

❖ Max transfer rate up to 150 Mbps (optional for different models)

❑ **Audio**

- ❖ 8 channel High Definition Audio (including one optical SPDIF output port)
- ❖ All DACs support 192k/96k/48k/44.1kHz sample rate
- ❖ One SPDIF-out header on board

❑ **Green Function**

- ❖ Supports ACPI (Advanced Configuration and Power Interface)

❑ **Graphics Features**

- ❖ GeForce GT 520 GPU, DirectX11
- ❖ DVI/HDMI/DP output (VGA compatible with adapter)
- ❖ Support up to 2560x1600 resolution

❑ **Expansion slots**

- ❖ One PCI Express x16 slot (single lane)
- ❖ One half-sized Mini PCI Express slot (vertical)
- ❖ One full-sized Mini PCI Express slot for mSATA SSD

Motherboard Layout

The motherboard inludes two versions: ATX version and DC-DC version. Users please refer to the corresponding layout picture below.

Figure 1 for ATX version:

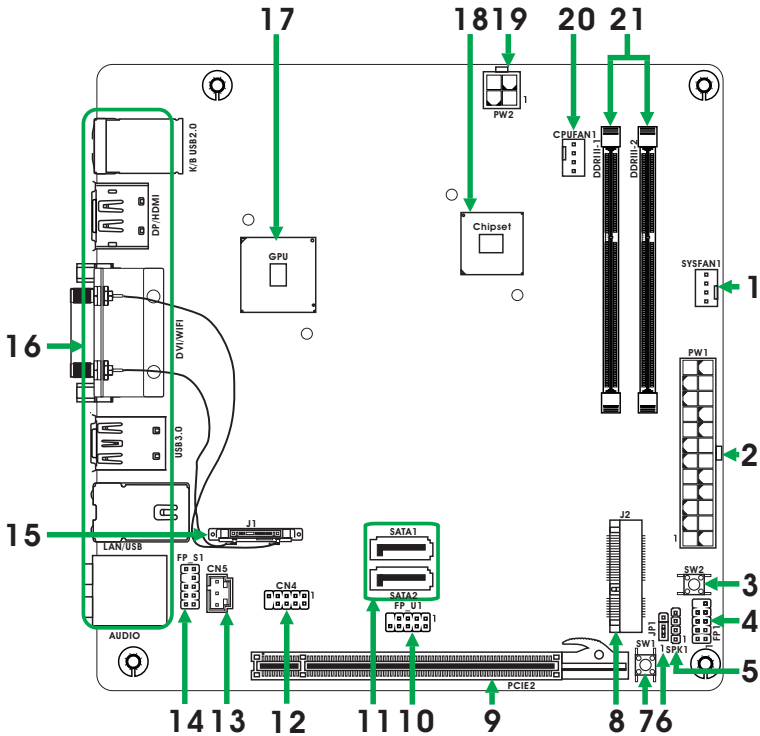


Figure 1. Board Layout (ATX version)

1. SYS Fan Connector-SYS_FAN1
2. 24-pin ATX Power Connector-PW1
3. Power on Button_SW2
4. Front Panel Header-FP1
5. Speaker Header-SPK1
6. Clear CMOS Jumper-JP1
7. Reset Button-SW1
8. Mini PCI Express Slot for mSATA SSD-J2
9. PCI Express x16 Slot-PCIE2
10. USB 2.0 Header-FP_U1
11. Serial-ATA (SATA) Connectors (SATA1/2)
12. COM Header-CN4
13. SPDIF-Out Header-CN5
14. Front Panel Audio Header-FP_S1
15. Mini PCI Express Slot-J1
16. Backpanel Connectors
17. GPU
18. Chipset
19. 4-pin ATX_12V Power Connector-PW2
20. CPU Fan Connector-CPU_FAN
21. DDRIII Sockets-DDRIII-1~2

Figure 2 for DC-DC version:

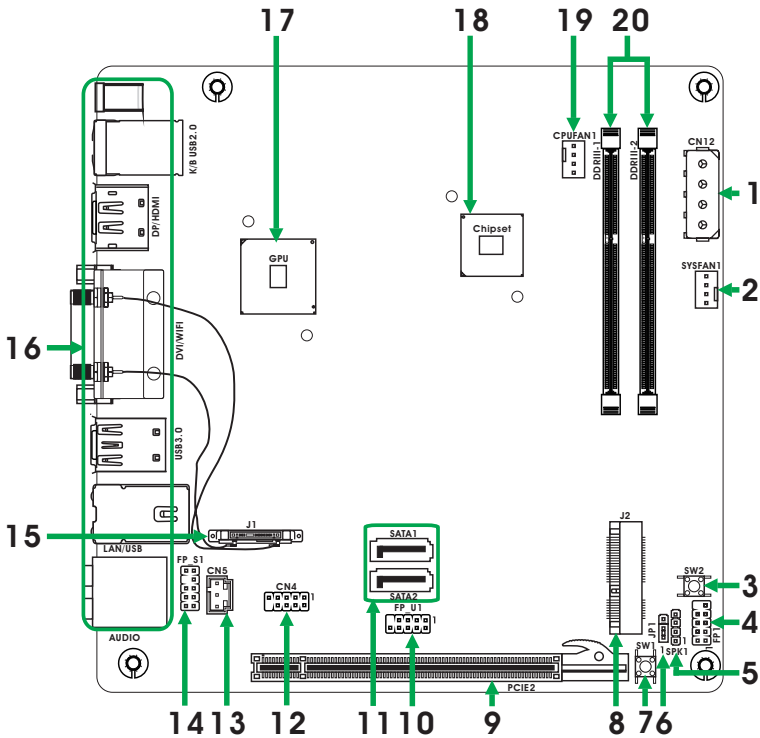
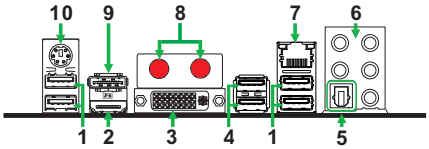


Figure 2. Board Layout (DC-DC version)

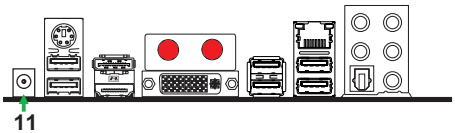
1. DC-OUT Connector-CN12
2. SYS Fan Connector-SYS_FAN1
3. Power on Button_SW2
4. Front Panel Header-FP1
5. Speaker Header-SPK1
6. Clear CMOS Jumper-JP1
7. Reset Button-SW1
8. Mini PCI Express Slot for mSATA SSD-J2
9. PCI Express x16 Slot-PCIE2
10. USB 2.0 Header-FP_U1
11. Serial-ATA (SATA) Connectors (SATA1/2)
12. COM Header-CN4
13. SPDIF-Out Header-CN5
14. Front Panel Audio Header-FP_S1
15. Mini PCI Express Slot-J1
16. Backpanel Connectors
17. GPU
18. Chipset
19. CPU Fan Connector-CPU_FAN
20. DDRIII Sockets-DDRIII-1~2

Figure 3. Backpanel Connectors

For ATX version



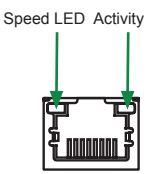
For DC-DC version



1. USB 2.0 Ports
2. HDMI Port
3. DVI Port
4. USB 3.0 Ports
5. Optical SPDIF Output
6.

Port	*2-Channel*	*4-Channel*	*6-Channel*	*8-Channel*
Blue	Line-In	Line-In	Line-In	Side Speaker Out
Green	Line-Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Mic In	Mic In
Black	–	–	Center/Subwoofer	Center/Subwoofer
Orange	–	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out

7. LAN port LED indicators



Speed LED

Status	Description
Off	Speed: 10 Mbps
Green	Speed: 100 Mbps
Orange	Speed: 1000 Mbps

Activity LED

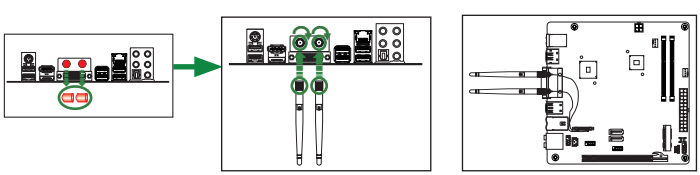
Status	Descritption
Off	No link
Orange	Linked
Blinking	Data activity

8. WiFi antenna connectors (Optional)

   This motherboard can support two WiFi antenna modules. Refer to the following to install the WiFi antenna modules.

   Step 1. Remove the red caps from the WiFi antenna connectors.

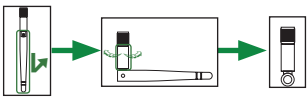
   Step 2. Install the WiFi antennas to the WiFi antenna connectors, and make sure the screws are rotated in clockwise direction.



Note: 1. Users please note that the appearance of your WiFi antenna modules may not be exactly the same as those shown in this manual.

2. Users can install one or two WiFi antennas to the motherboard.

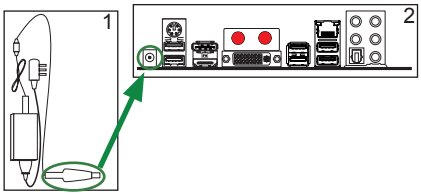
3. Users can bend or rotate the WiFi antennas to the best receiving direction according to the picture below.

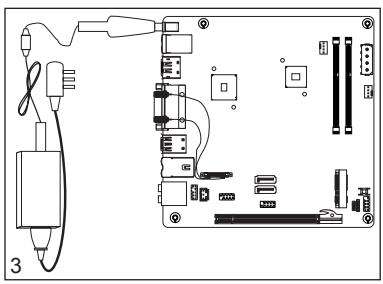


9. DisplayPort

10. PS2 Keyboard Port

11. 19V DC Power input (for DC-DC version)
This motherboard contains a DC power input jack (as picture 1). Users can plug a 19V AC/DC adapter to the DC power input jack (as picture 2). Please use a 19V DC power adapter instead of ATX power supply. Picture 3 is the final image.





Hardware Installation

This section will guide you through the installation of the motherboard. The topics covered in this section are:

- ❑ Installing Memory Modules
- ❑ Installing the Motherboard
- ❑ Connecting Cables and Setting Switches

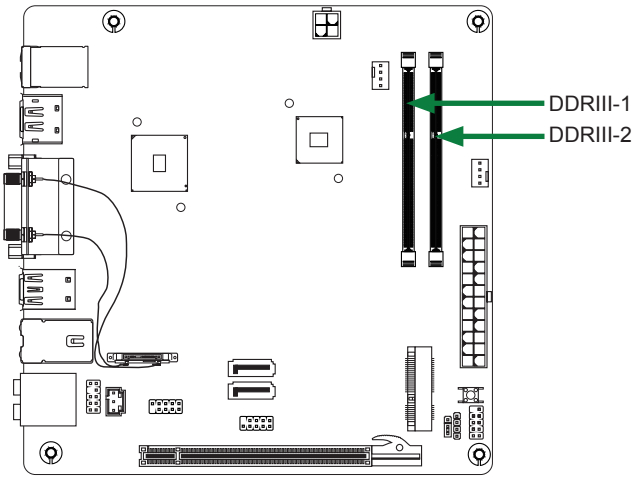
Safety Instructions

To reduce the risk of fire, electric shock, and injury, always follow basic safety precautions.

Remember to remove power from your computer by disconnecting the AC main source before removing or installing any equipment from/to the computer chassis.

Installing Memory Modules

Your new motherboard has two 1.5V 204-pin slots for SO-DIMM DDR3 memory. These slots support 1 GB/2 GB DDR3 devices. There must be at least one memory bank populated to ensure normal operation. Refer to the following recommendations to install memory modules.



Note that a memory module has a notch, so it can only fit in one direction. Refer to the following procedure to install memory modules into the slots on the motherboard.

1. Unlock a SO-DIMM slot by pressing the module clips outward.
2. Align the memory module to the SO-DIMM slot, and insert the module vertically into the slot. The plastic clips at both sides of the slot automatically lock the SO-DIMM into the connector.

Note: When installing only one SO-DIMM DDR3 module, please insert it into the DDRIII-2 slot.

Installing the Motherboard

The sequence of installing the motherboard into the chassis depends on the chassis you are using and if you are replacing an existing motherboard or working with an empty chassis. Determine if it would be easier to make all the connections prior to this step or to secure the motherboard and then make all the connections. It is normally easier to secure the motherboard first. Use the following procedure to install the I/O shield and secure the motherboard into the chassis.

Note: Be sure that the CPU fan assembly has enough clearance for the chassis covers to lock into place and for the expansion cards. Also make sure the CPU Fan assembly is aligned with the vents on the covers.

Installing the I/O Shield

The motherboard kit comes with an I/O shield that is used to block radio frequency transmissions, protects internal components from dust and foreign objects, and promotes correct airflow within the chassis.

Before installing the motherboard, install the I/O shield from the ***inside*** of the chassis. Press the I/O shield into place and make sure it fits securely. If the I/O shield does not fit into the chassis, you would need to obtain the proper size from the chassis supplier.

Securing the Motherboard into the Chassis

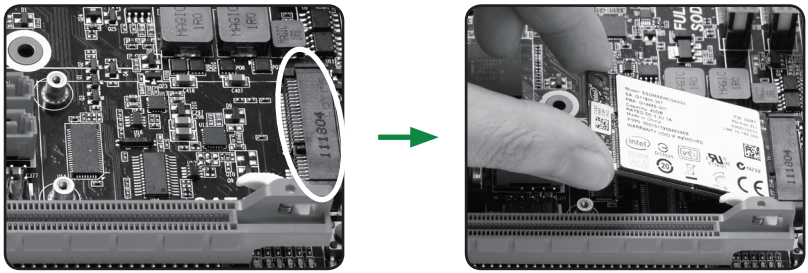
Most computer chassis have a base with mounting studs or spacers to allow the motherboard to be secured to the chassis and help to prevent short circuits. If there are studs that do not align with a mounting hole on the motherboard, it is recommended that you remove that stud to prevent the possibility of a short circuit. In most cases, it is recommended to secure the motherboard with spacers.

1. Carefully place the motherboard onto the studs/spacers located inside the chassis.
2. Align the mounting holes with the studs/spacers.
3. Align the connectors to the I/O shield.
4. Ensure that the fan assembly is aligned with the chassis vents according to the fan assembly instruction.
5. Secure the motherboard with screws.

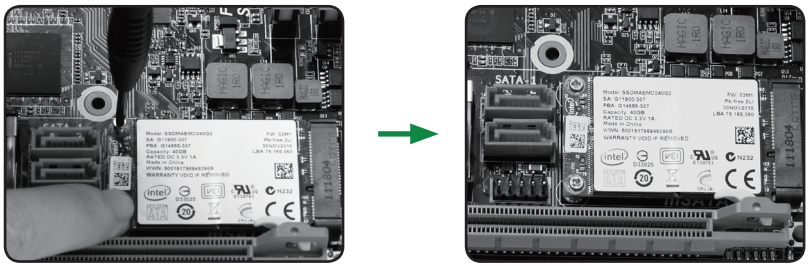
Installing an mSATA SSD module (optional)

The motherboard supports one mSATA SSD via mini PCIe slot. Users please install the mSATA SSD module according to the following instructions.

1. Locate the Mini-PCIe slot of the motherboard, and insert an mSATA SSD into the slot at a 45 degree angle.



2. Gently press down on the mSATA SSD with one finger and secure the screws.

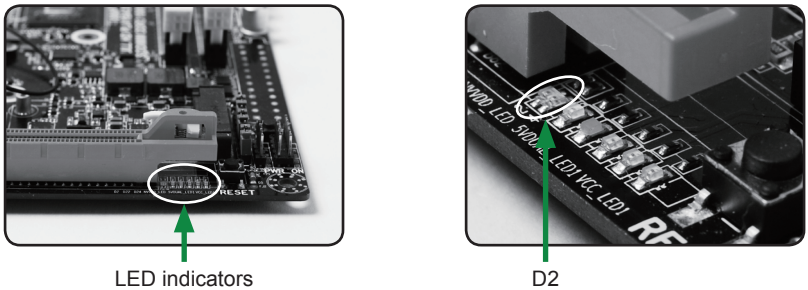


Note:

1. The motherboard shipped in the box does not contain an mSATA SSD.

2. You can only use either mSATA or SATA2 device at a time. The default working mode is SATA2. The SATA2 will become unavailable when mSATA SSD is installed.

3. When the SATA2 device works, the LED indicator D2 red light is on; when the mSATA device works, the LED indicator D2 green light is on.



Connecting Cables and Setting Switches

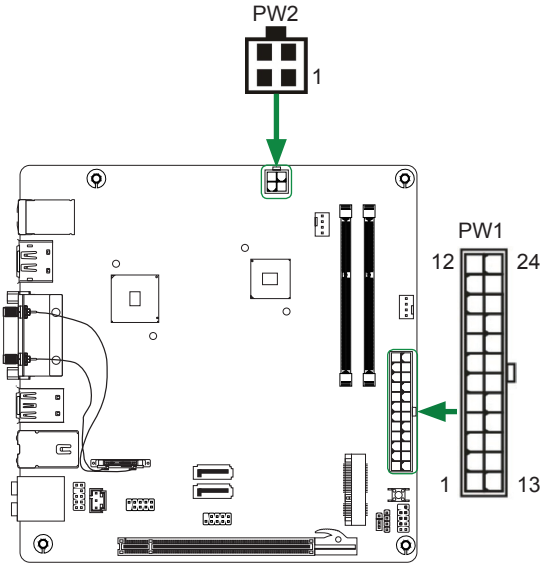
This section takes you through all the connectors and switch settings necessary on the motherboard. This will include:

- ❑ Power Connector
  - ❖ 24-pin ATX Power Connector-PW1 (for ATX version)
  - ❖ DC OUT Connector-CN12 (for DC-DC version)
  - ❖ 4-pin ATX_12V Power Connector-PW2 (for ATX version)
- ❑ Internal Headers/Connectors
  - ❖ SPDIF-Out Header-CN5
  - ❖ COM Header-CN4
  - ❖ Front Panel Header-FP1
  - ❖ USB Headers (FP_U1)
  - ❖ Front Panel Audio Header-FP_S1
- ❑ Serial-ATA (SATA) Connectors (SATA1/2)
- ❑ Fan Connectors
- ❑ Expansion Slots
- ❑ CMOS Jumper Settings

See Figure 1 to locate the connectors and jumpers referenced in the following procedure.

24-pin ATX Power Connector-PW1 (for ATX version)

PW1 is the main power supply connector. Make sure that the power supply cable and pins are properly aligned with the connector on the motherboard. Firmly plug the power supply cable into the connector and make sure it is secure.



PW1-Pin Definition

Pin	Signal	Pin	Signal
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	PWROK	20	-5V
9	+5V_AUX	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	GND

4-pin ATX_12V Power Connector-PW2 (for ATX version)

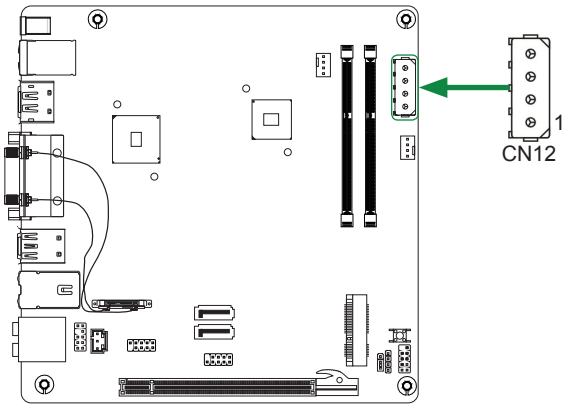
PW2, the 4-pin ATX 12V power connector, is used to provide power to the CPU. Align the pins to the connector and press firmly until seated.

PW2-Pin Definition

Pin	Signal
1	GND
2	GND
3	+12V
4	+12V

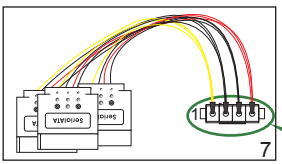
DC OUT Connector-CN12 (for DC-DC version)

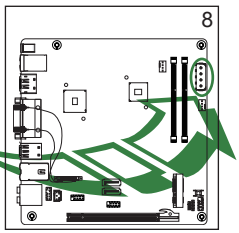
This motherboard can supply the power to SATA devices with a SATA power cable. Users can plug a SATA power cable (as picture 7) to the DC out connector (as picture 8). Picture 9 is the final image.

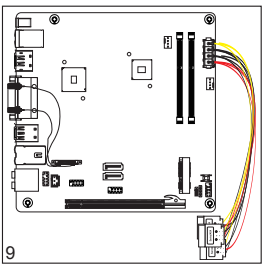


CN12-Pin Difinition

PIN	Assignment
1	12V
2	GND
3	GND
4	5V







SPDIF-Out Header-CN5

This header provides a SPDIF (Sony/Philips Digital Interface) output to digital multimedia device through coaxial connector.

CN5 - Pin Definition

Pin	Signal
1	GND
2	SPDIF-out
3	VCC

COM Header-CN4 (optional)

CN4 - Pin Definition

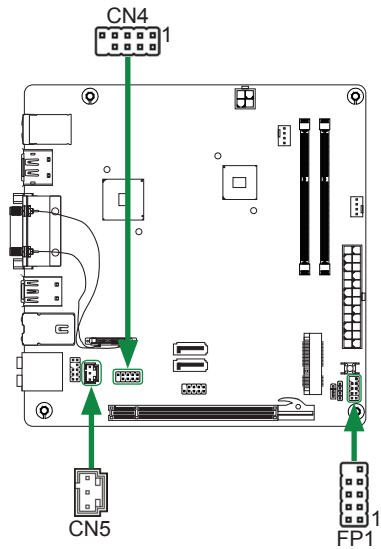
Pin	Signal	Pin	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

Front Panel Header-FP1

The front panel header on this motherboard is one connector used to connect the following four cables :

FP1-Pin Definition

Pin	Signal	Pin	Signal
1	HDD_LED+	2	PW_LED+
3	HDD_LED-	4	PW_LED-
5	GND	6	PWR_SW
7	RESET	8	GND
9	NC	10	KEY



- ❑ **PWRLED**

  Attach the front panel power LED cable to these two pins of the connector. The Power LED indicates the system's status.

- ❑ **PWR SW**

  Attach the power button cable from the case to these two pins. Pressing the power button on the front panel turns the system on and off rather than using the power supply button.

- ❑ **HDD LED**

  Attach the hard disk drive indicator **LED** cable to these two pins. The HDD indicator **LED** indicates the activity status of the hard disks.

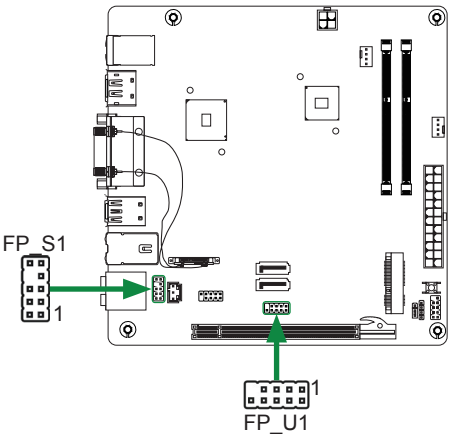
- ❑ **RST SW**

  Attach the Reset switch cable from the front panel of the case to these two pins. The system restarts when the **RESET** switch is pressed.

Note: Some chassis do not have all four cables. Be sure to match the name on the connectors to the corresponding pins.

USB Headers-FP_U1

This motherboard contains four USB 2.0 and two USB 3.0 ports that are exposed on the rear panel of the chassis. The motherboard also contains one 10-pin internal USB 2.0 header onboard.



Note: Secure the bracket to either the front or rear panel of your chassis (not all chassis are equipped with the front panel option).

FP_U1-Pin Definition

PIN	Assignment	PIN	Assignment
1	VCC	2	VCC
3	USBP0-	4	USBP1-
5	USBP0+	6	USBP1+
7	GND	8	GND
9	KEY	10	NC

Front Panel Audio Header-FP_S1

The audio connector supports HD audio standard and provides two kinds of audio output choices: the Front Audio, the Rear Audio. The front Audio supports retasking function.

FP_S1-Pin Definition

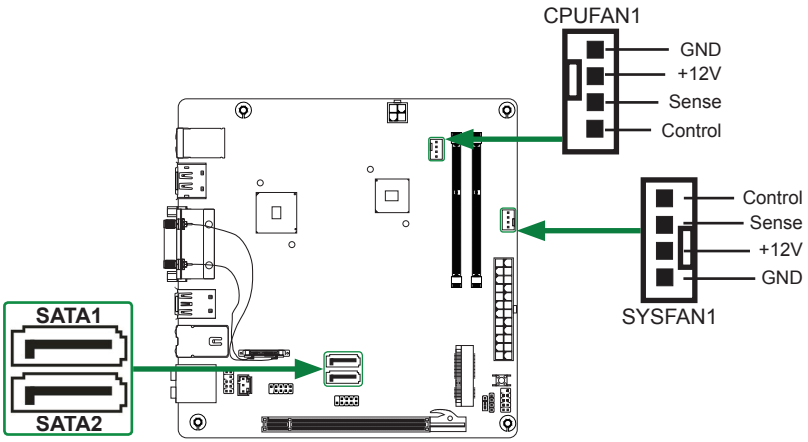
PIN	Assignment	PIN	Assignment
1	MIC2(L)	2	GND
3	MIC(R)	4	-ACZ-DET
5	Front Audio(R)	6	Reserved
7	FAVDIO-JD	8	Key(No pin)
9	Front Audio(L)	10	Reserved

Note:

In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assignment on the cable is the same as the pin assignment on the mainboard header. To find out if the chassis you are buying supports a front audio connector, please contact your dealer.

Fan Connectors

There are two fan connectors on the motherboard, including system fan connector-SYSFAN1 and CPU fan connector-CPUFAN1.



Serial-ATA (SATA) Connectors (SATA1/2)

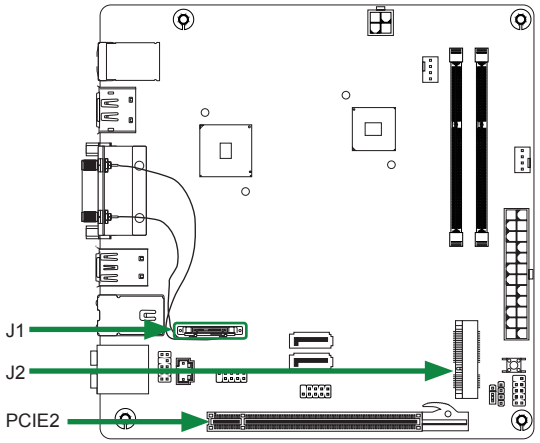
The Serial ATA connector is used to connect the Serial ATA device to the motherboard. These connectors support the thin Serial ATA cables for primary storage devices. The motherboard incorporates two SATA II ports with maximum transfer rate up to 3.0 Gb/s each.

SATA-Pin Definition

Pin	Signal
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

Expansion Slots

The motherboard contains three expansion slots, twe Mini PCIe slots and one PCIe x16 slot.



Mini PCI Express Slots-J1/J2

There are two Mini PCI Express slots. J1 supports one half-sized WiFi card. J2 supports one mSATA SSD. (Please refer to page 13 to install the mSATA SSD module.)

PCI Express x16 Slot-PCIE_X16

There is one PCIe x16 slot reserved for graphics card. It is fully compliant with PCIE 2.0 specification.

Jumper Settings

This section explains how to configure the motherboard's hardware. Before using your computer, make sure all jumpers and DRAM modules are set correctly. Refer to this section whenever in doubt.

CMOS Clear Jumper-JP1

JP1	Selection
1-2*	Normal*
2-3	CMOS Clear

Close Open * = Default setting.

If you want to clear the system configuration, use the JP1 (Clear CMOS Jumper) or SW1 (Clear CMOS Button) to clear data.

Notice:

1. Be sure to save the CMOS setting when exit the CMOS.
2. If the CPU is frequency multiplier locked, no CPU speed change will be seen even if the frequency multiplier setting in CMOS setup is changed.

Configuring the BIOS

This section discusses how to change the system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

Enter BIOS Setup

The BIOS is the communication bridge between hardware and software. Correctly setting the BIOS parameters is critical to maintain optimal system performance.

Refer to the following procedure to verify/change BIOS settings.

1. Power on the computer.
2. Press the **Del** key when the following message briefly displays at the bottom of the screen during the Power On Self Test (POST).

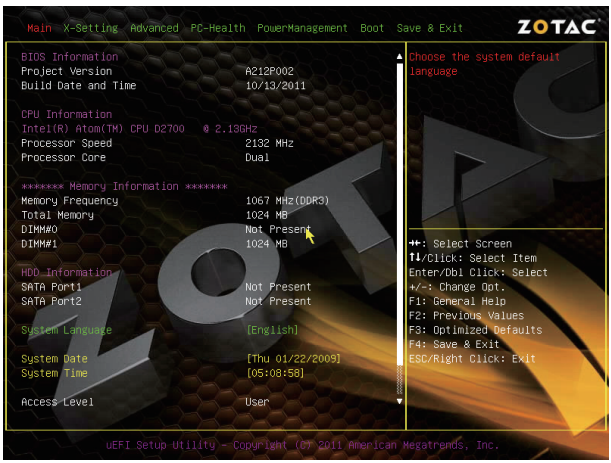
   Pressing **Del** takes you to the BIOS Setup Utility.

Note: 1. We reserve the right to update the BIOS version presented in the manual. The BIOS pictures shown in this section are for reference only.

2. It is strongly recommended that you do not change the default BIOS settings. Changing some settings could damage your system.

Main Menu

This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu.



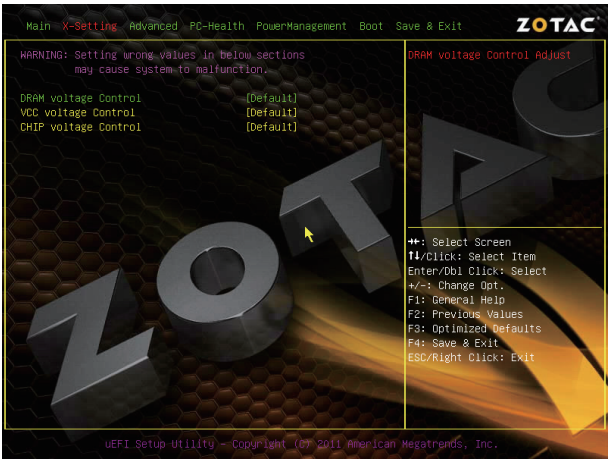
Note: Users please note that the data in gray is non-changeable, and the others are for selection.

- ❑ **BIOS Information**
  Displays the auto-detected BIOS information.
- ❑ **CPU Information**
  Displays the auto-detected CPU information.

- **Memory Information**
  Displays the auto-detected memory information.
- **HDD Information**
  Displays the auto-detected HDD information.
- **System Date/Time**
  Allows you to set the system date/time.

X-Setting Menu

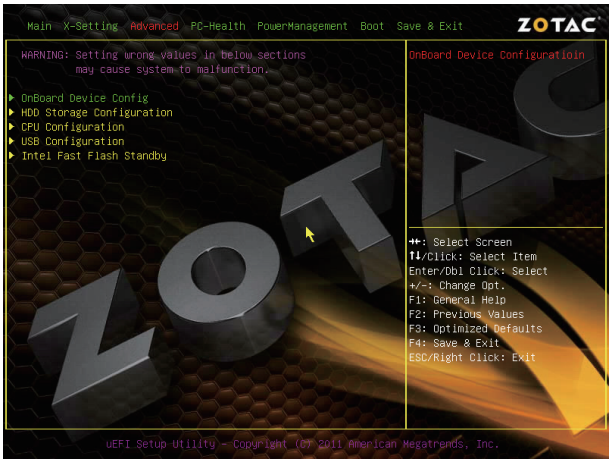
The X-Setting menu items show the settings of voltage control.


Main X-Setting Advanced PC-Health PowerManagement Boot Save & Exit
ZOTAC
WARNING: Setting wrong values in below sections
may cause system to malfunction.
DRAM voltage Control [Default]
VCC voltage Control [Default]
CHIP voltage Control [Default]
DRAM voltage Control Adjust
→←: Select Screen
↑↓/Click: Select Item
Enter/Dbl Click: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC/Right Click: Exit
uEFI Setup Utility – Copyright (C) 2011 American Megatrends, Inc.

- **DRAM voltage Control**
  Use this item to set the DRAM voltage.
- **VCC voltage Control**
  Use this item to set the VCC voltage.
- **CHIP voltage Control**
  Use this item to set the chip voltage.

Advanced Menu

The Advanced menu items allow you to change the setting for the CPU and other system devices. Press <enter> to display the configuration options:


Main X-Setting Advanced PC-Health PowerManagement Boot Save & Exit
ZOTAC
WARNING: Setting wrong values in below sections may cause system to malfunction.
OnBoard Device Configuration
OnBoard Device Config
HDD Storage Configuration
CPU Configuration
USB Configuration
Intel Fast Flash Standby
→←: Select Screen
↑↓/Click: Select Item
Enter/Dbl Click: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC/Right Click: Exit
uEFI Setup Utility – Copyright (C) 2011 American Megatrends, Inc.

OnBoard Device Config

The items in this menu allow you to set PCI Express port, HD Audio and so on.

- ❑ **PCI Express Port 0/1/2/3**
  Use this item to set the PCI Express Port.
- ❑ **Launch PXE OpROM**
  Use this item to enable or disable Launch PXE OpROM.
- ❑ **Launch Storage OpROM**
  Use this item to enable or disable Launch Storage OpROM.
- ❑ **Azalia Controller**
  Use this item to set Azalia controller.
- ❑ **Serial Port 0/1 Configuration**
  Press <Enter> to display the serial port configuration.
- ❑ **CIR Controller Configuration**
  Press <Enter> to display the CIR controller configuration.

HDD Storage Configuration

The items in this menu allow you to set or change the storage configurations. Press <enter> to display the configuration options:

- ❑ **SATA Controller**
  Allows you to configure SATA controller.
- ❑ **Configure SATA as**
  This item allows you to configure SATA as IDE/AHCI mode.

CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects. Press <enter> to display the configuration options:

- **Hyper-Threading**
  Enable this function for Windows and Linux4 OS, (OS supports Hyper Threading Technology). Disable this function for other OS. (OS not optimized for Hyper Threading Technology).
- **Core-Multi Processing**
  Use this item to enable or disable Core-Multi processing.
- **Execute Disable Bit**
  When disabled forces the XD feature flag to always return 0, defaults choose [Enable].
- **Limit CPUID Maximum**
  Allows you to determine whether to limit CPUID maximum value. Set this item to [Disable] Windows operating system; set this item to [Enable] for legacy operating system such as Windows NT4.0.
- **Intel Virtualization Technology**
  Hardware Virtualization Technology enables processor feature for running multiple simultaneous virtual machines allowing specialized software applications to run in full isolation of each other.

USB Configuration

The items in this menu allow you to change the USB-related features. Press <enter> to display the configuration options:

- **USB Support**
  Allows you to enable or disable USB support.
- **Legacy USB Support**
  Allows you to enable or disable support for USB devices on legacy operating systems.
- **EHCI Hand-Off**
  Allows you to enable support for operating systems without an EHCI hand-off feature.
- **USB transfer time-out**
  Allows you to set USB transfer time-out.
- **Device reset time-out**
  Allows you to set device reset time-out.
- **Device power-up delay**
  Allows you to set device power-up delay.

Intel Fast Flash Standby

The items in this menu allow you to change Intel Fast Flash standby features. Press <enter> to display the configuration options:

- ❑ **iFFS Support**
  Use this item to enable or disable iFFS.
- ❑ **Entry on S3 RTC Wake**
  Use this item to enable or disable entry on S3 RTC wake.
- ❑ **Entry After**
  Use this item to set the number of minutes of entry after.
- ❑ **Entry on S3 Critical Battery Wake**
  Use this item to enable or disable entry on S3 critical battery wake.

PC Health Menu

Select PC Health from the BIOS Setup Utility menu to display the system menu.

Main X-Setting Advanced PC-Health PowerManagement Boot Save & Exit
ZOTAC
Pc Health Status
CPU temperature : +42 C
CPU Fan Speed : N/A
VCORE : +1.200 V
VDDR : +1.528 V
VCC : +1.056 V
AVCC : +3.312 V
3VCC : +3.296 V
VSB3 : +3.392 V
VBAT : +3.168 V
CPU Fan Control Mode [Smart Fan]
Duty Cycle [80%]
Start Temperature [30 C]
Start Fan Duty [30%]
Highest Fan Duty [80%]
CPU Fan Control Mode Select
++: Select Screen
↑↓/Click: Select Item
Enter/Dbl Click: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC/Right Click: Exit
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- ❑ **CPU Fan Control Mode**
  Use this item to select CPU FAN Control mode.
- ❑ **Duty Cycle**
  Use this item to select the fan dutycycle.
- ❑ **Start Temperature**
  Use this item to select the start temperature.
- ❑ **Start Fan Duty**
  Use this item to select the start fan dutycycle.
- ❑ **Highest Fan Duty**
  Use this item to select the highest fan dutycycle.

Power Management Menu

The items in this menu allow you to control the system power management. Press <Enter> to display the configuration options:

Main X-Setting Advanced PC-Health PowerManagement Boot Save & Exit
ZOTAC
ACPI Settings
Enable Hibernation [Enabled]
ACPI Sleep State [S3 (Suspend to RAM)]
Restore AC Power Loss [Power Off]
Logo indicate [Enabled]
DeepSleep(Erp Compliant) [Disabled]
PS2 Wakeup S4&S5 [Disabled]
RTC Wakeup Setting [Disabled]
Wake up Day 0
Wake up hour 0
Wake up minute 0
Wake up second 0
PPM Configuration
Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.
→←: Select Screen
↑↓/Click: Select Item
Enter/Dbl Click: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC/Right Click: Exit
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- **Enable Hibernation**
  Enable or disable system ability to hibernation (OS/S4 Sleep State). This option may be not effective with some OS.
- **ACPI Sleep State**
  Select the highest ACPI sleep state, the system will enter when the SUSPEND button is pressed.
- **Restore AC Power Loss**
  This item allows you to configure how the system board responds to a power failure.
- **Logo indicate**
  Use this item to enable or disable logo indicate.
- **DeepSleep (Erp Compliant)**
  When enabled, wake up from S4/S5 can only be done by power button.
- **PS2 Wakeup S4&S5**
  Use this item to enable or disable PS2 wakeup S4 & S5.
- **RTC Wakeup Setting**
  Use this item to enable or disable RTC wakeup.

Boot Menu

The Boot menu items allow you to change the system boot options. Press <enter> to display the configuration options:

Main X-Setting Advanced PC-Health PowerManagement Boot Save & Exit
ZOTAC
Boot Configuration
Setup Prompt Timeout 1
Bootup NumLock State [On]
Security Settings
Full Screen Logo [Enabled]
CSM16 Module Version 07.65
GateA20 Active [Upon Request]
Option ROM Messages [Force BIOS]
Interrupt 19 Capture [Disabled]
Boot Option Priorities
Boot Option #1 [UEFI: 1STCHAMP1STC...]
Boot Option #2 [1STCHAMP1STCHAMP 1.00]
Hard Drive BBS Priorities
Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
→←: Select Screen
↑↓/Click: Select Item
Enter/Dbl Click: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC/Right Click: Exit
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❑ **Setup Prompt Timeout**
Use this item to set number of seconds to wait for setup activation key.

❑ **Bootup NumLock State**
Use this item to select the keyboard NumLock state: [On] or [Off].

❑ **Security Settings**
The security menu items allow you to change the system security settings. Press <enter> to display the configuration options:

☛ **Administrator Password**
Select this item to set Setup Administrator Password.

☛ **User Password**
Select this item to set the user password.

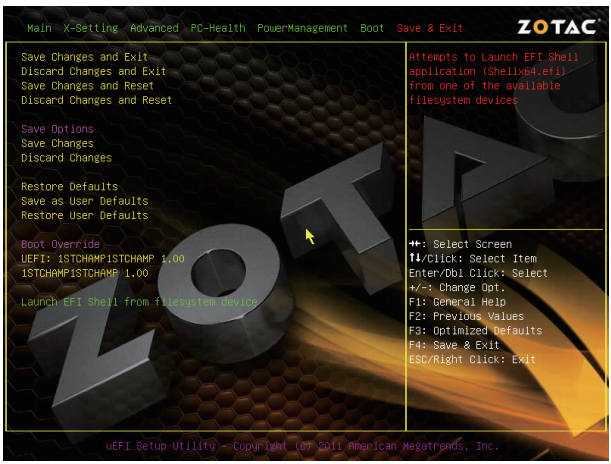
To set an Administrator/User Password:

1. Select the item [Administrator/User Password] and press <Enter>.
2. From the password box, type a password composed of at least six letters and/or numbers, then press <Enter>.
3. Confirm the password when prompted:
   The message “Password Installed” appears after you successfully set your password.
   To change the administrator/user password, follow the same steps as setting a use password.
   To clear the administrator/user password, select the item [Administrator/User password], then press <enter>. The message “Password Uninstalled” appears.

- **Full Screen Logo**
  This option allows you to enable or disable the display of the full-screen logo when the system boots. Use the <Page Up> and <Page Down> keys to toggle between [Enable] and [Disable].
- **GateA20 Active**
  When set to [Upon Request], GA20 can be disabled using BIOS services. When set to [Always], GA20 can not be disabled; this option is useful when any RT code is executed above 1MB.
- **Option ROM Messages**
  Use this item to set display mode for Option.
- **Interrupt 19 Capture**
  When set to [Enabled], this function allows the option ROMS to trap interrupt 19.
- **Boot Option #1/2**
  This item displays the boot option.

Save & Exit Menu

The exit menu items allow you to load the option or failsafe default values for the BIOS items, and save or discard your changes to the BIOS items. Press <enter> to display the sub-menu:



Save Changes and Exit

Select this item and press <Enter> to save the changes that you have made in the BIOS Setup and exit the BIOS Setup. When the diolog box [Save configuration and exit?] appears, select [Yes] to save and exit, or select [No] to return to the main menu.

Discard Changes and Exit
Select this option only if you do not want to save the changes that you have made to the setup program. If you made changes to fields other than system date, system time, and password, the BIOS asks for a confirmation before exiting.

Save Changes and Reset
Select this item and press <Enter> to reset the system after saving the changes. When the diolog box [Save configuration and reset?] appears, select [Yes] to save and reset, or select [No] to return to the main menu.

Discard Changes and Reset
Select this item and press <Enter> to reset system setup without saving any changes. When the diolog box [Reset without saving?] appears, select [Yes] to discard and reset, or select [No] to return to the main menu.

Save Changes
Select this item and press <Enter> to save the changes that you have made in the BIOS Setup and exit the BIOS Setup. When the diolog box [Save configuration?] appears, select [Yes] to save changes, or select [No] to return to the main menu.

Discard Changes
This option allows you to discard the selections you have made and restore the previously saved values. When the dialog box [Load Previous Values?] appears, select [Yes] to discard any change and load the previously saved values.

Restore Defaults
Use this item to restore/load default values for all the setup options.

Save as User Defaults
Use this item to save the changes as User Defaults.

Restore User Defaults
Use this item to restore the User Defaults to all the setup options.

Launch EFI Shell from filesystem device
Use this item to launch EFI Shell application (Shellx64.efi) from one of the available filesystem devices.

FLASH Update Procedure

The program EFUDOS.exe is included in the driver dsk (X:\Utility\EFUDOS.exe). Please follow the recommended procedure to update the flash BIOS, as listed below.
(X: your driver disk letter).

1. Create a DOS-bootable floppy diskette. Copy the new BIOS file (just obtained or downloaded) and the utility program EFUDOS.exe to the diskette.

2. Allow the PC system to boot from the DOS diskette.

3. At the DOS prompt, type

   EFUDOS XX.ROM /P /B /N <ENTER>

   Note: XX (the BIOS file name) can be defined by users.

4. Wait until the flash-update is complete.

5. Restart the PC.

Warning: - Do not turn off or RESET the computer during the flash process.
- If you are not sure how to upgrade the BIOS, please take your computer to an Authorized Service Center and have a trained technician do the work for you.

Installing Drivers and Software

Note:

1. It is important to remember that before installing the driver disk that is shipped in the kit, you need to load your operating system. The motherboard supports Windows Vista 32 bit/64 bit and Windows 7 32bit/64bit.

2. For best compatibility, please only use the onboard SATA or USB 2.0 ports as the OS installation source drive connection.

The kit comes with a driver disk that contains utility drivers and additional software.

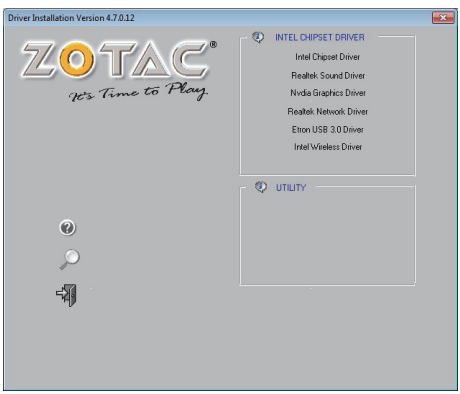
The driver disk that has been shipped with your motherboard contains the following software and drivers:

- ❑ **Intel Chipset Driver**
- ❑ **Realtek Sound Driver**
- ❑ **Nvidia Graphics Driver**
- ❑ **Realtek Network Driver**
- ❑ **Etron USB 3.0 Driver**
- ❑ **Intel Wireless Driver**

Note: We reserve the right to update the driver version presented in the manual. The driver installation pictures shown in this section are for reference only.

Drivers Installation

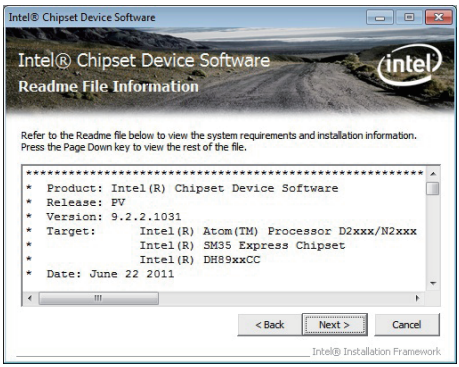
1. Insert the driver disk into the drive after loading your operating system, and then you can see the interface below.



2. Left-click **Intel Chipset Driver**, begin loading

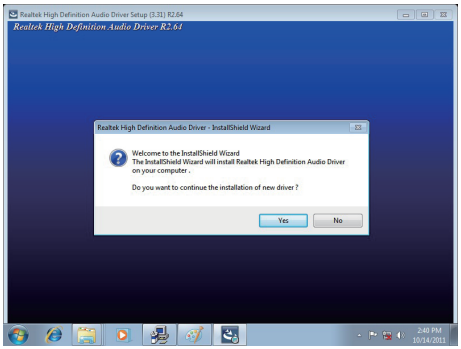
Intel® Chipset Device Software
Intel® Chipset Device Software
Welcome to the Setup Program
This setup program will install the Intel® Chipset Device Software onto this computer. It is strongly recommended that you exit all programs before continuing.
< Back
Next >
Cancel
Intel® Installation Framework

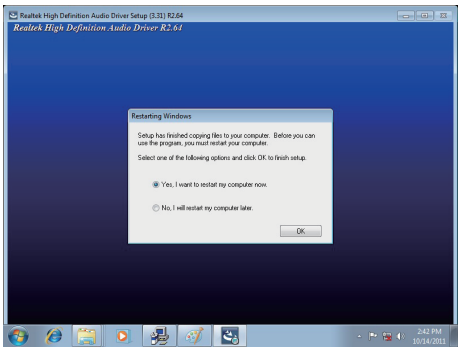
Intel® Chipset Device Software
Intel® Chipset Device Software
License Agreement
You must accept all of the terms of the license agreement in order to continue the setup program. Do you accept the terms?
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
Please Also Note:
* If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies;
< Back
Yes
No
Intel® Installation Framework


Intel® Chipset Device Software
Intel® Chipset Device Software
Readme File Information
Refer to the Readme file below to view the system requirements and installation information. Press the Page Down key to view the rest of the file.
********** * Product: Intel(R) Chipset Device Software * Release: PV * Version: 9.2.2.1031 * Target: Intel(R) Atom(TM) Processor D2xxx/N2xxx * Intel(R) SM35 Express Chipset * Intel(R) DH89xxCC * Date: June 22 2011
< Back
Next >
Cancel
Intel® Installation Framework

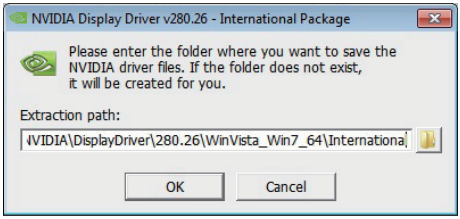
Intel® Chipset Device Software
Intel® Chipset Device Software
Setup Is Complete
intel
You must restart this computer for the changes to take effect. Would you like to restart the computer now?
Yes, I want to restart this computer now.
No, I will restart this computer later.
Click Finish, then remove any installation media from the drives.
Finish
Intel® Installation Framework

3. Left-click **Realtek Sound Driver**, begin loading


Realtek High Definition Audio Driver Setup (3.31) R2.64
Realtek High Definition Audio Driver R2.64
Realtek High Definition Audio Driver - InstallShield Wizard
Welcome to the InstallShield Wizard
The InstallShield Wizard will install Realtek High Definition Audio Driver on your computer .
Do you want to continue the installation of new driver ?
Yes
No

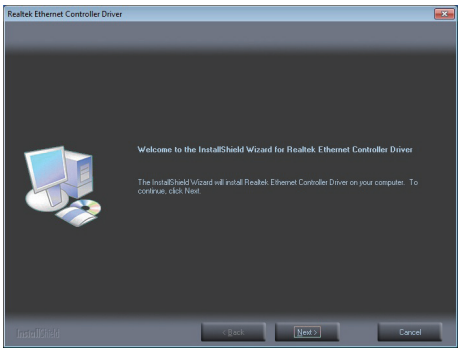

Realtek High Definition Audio Driver Setup (3.31) R2.64
Realtek High Definition Audio Driver R2.64
Restarting Windows
Setup has finished copying files to your computer. Before you can use the program, you must restart your computer.
Select one of the following options and click OK to finish setup.
Yes, I want to restart my computer now.
No, I will restart my computer later.
OK

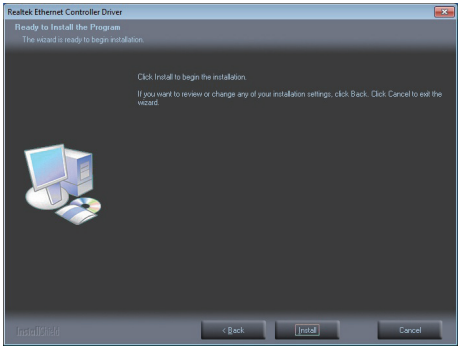
4. Left-click **Nvidia Graphics Driver**, begin loading

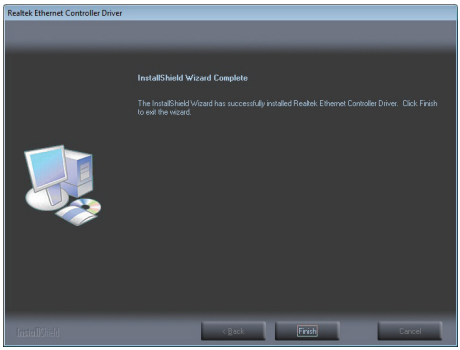

NVIDIA Display Driver v280.26 - International Package
Please enter the folder where you want to save the NVIDIA driver files. If the folder does not exist, it will be created for you.
Extraction path:
NVIDIA\DisplayDriver\280.26\WinVista_Win7_64\Internationa
OK
Cancel

NVIDIA Installer
NVIDIA Graphics Driver
Version 280.26
NVIDIA
System Check
License Agreement
Options
Install
Finish
NVIDIA software license agreement
Please read the following NVIDIA software license agreement carefully.
License For Customer Use of NVIDIA Software
IMPORTANT NOTICE -- READ CAREFULLY: This License For Customer Use of NVIDIA Software ("LICENSE") is the agreement which governs use of the software of NVIDIA Corporation and its subsidiaries ("NVIDIA") downloadable herefrom, including computer software and associated printed materials ("SOFTWARE"). By downloading, installing, copying, or otherwise using the SOFTWARE, you agree to be bound by the terms of this LICENSE. If you do not agree to the terms of this LICENSE, do not download the SOFTWARE.
Click agree and continue if you accept the terms of the agreement.
AGREE AND CONTINUE
CANCEL

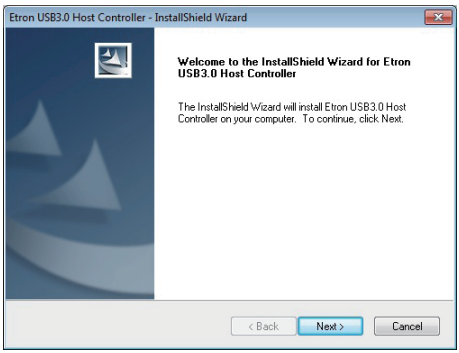
5. Left-click **Realtek Network Driver**, begin loading

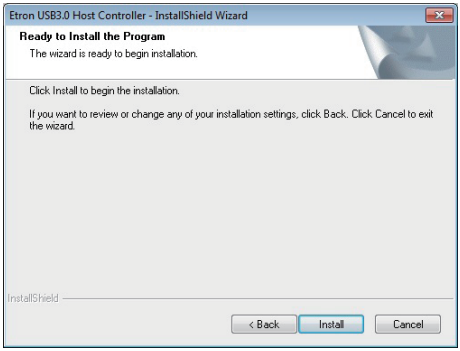

Realtek Ethernet Controller Driver
Welcome to the InstallShield Wizard for Realtek Ethernet Controller Driver
The InstallShield Wizard will install Realtek Ethernet Controller Driver on your computer. To continue, click Next.
InstallShield
< Back
Next >
Cancel

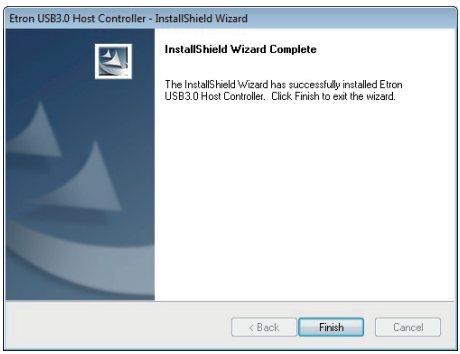

Realtek Ethernet Controller Driver
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel


Realtek Ethernet Controller Driver
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Realtek Ethernet Controller Driver. Click Finish to exit the wizard.
InstallShield
< Back
Finish
Cancel

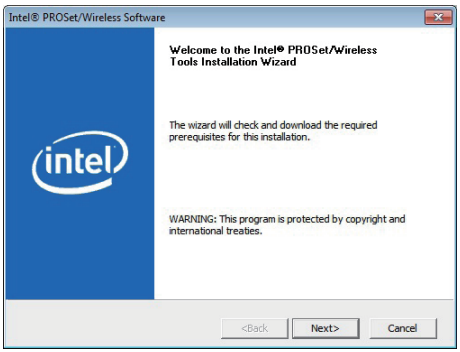
6. Left-click **Etron USB 3.0 Driver**, begin loading


Etron USB3.0 Host Controller - InstallShield Wizard
Welcome to the InstallShield Wizard for Etron USB3.0 Host Controller
The InstallShield Wizard will install Etron USB3.0 Host Controller on your computer. To continue, click Next.
< Back
Next >
Cancel

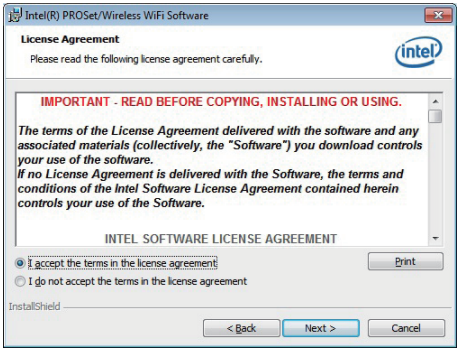

Etron USB3.0 Host Controller - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

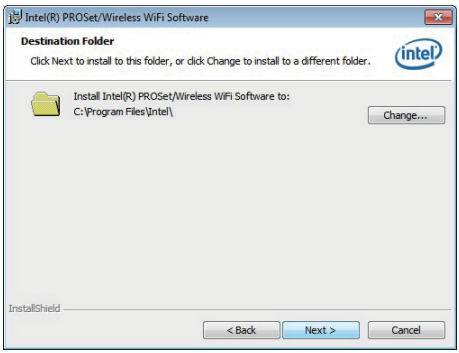

Etron USB3.0 Host Controller - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed Etron USB3.0 Host Controller. Click Finish to exit the wizard.
< Back
Finish
Cancel

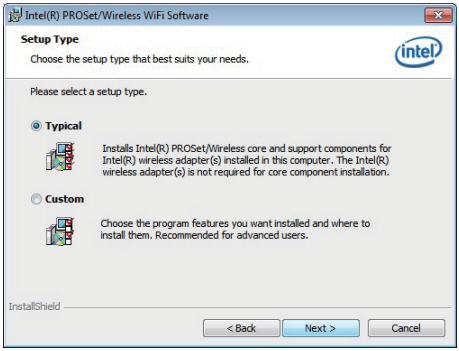
7. Left-click **Intel Wireless Driver**, begin loading

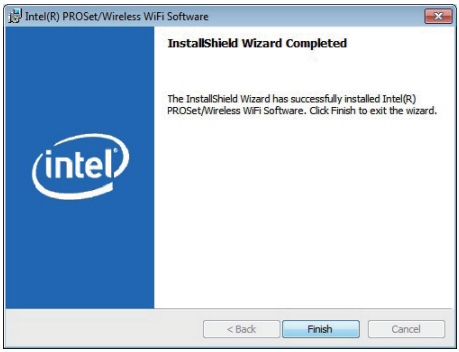

Intel® PROSet/Wireless Software
Welcome to the Intel® PROSet/Wireless Tools Installation Wizard
The wizard will check and download the required prerequisites for this installation.
WARNING: This program is protected by copyright and international treaties.
<Back
Next>
Cancel

Intel(R) PROSet/Wireless WiFi Software
Welcome to the InstallShield Wizard for Intel(R) PROSet/Wireless WiFi Software
The InstallShield(R) Wizard will install Intel(R) PROSet/Wireless WiFi Software on your computer. To continue, click Next.
View Release Notes
View User Guide
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

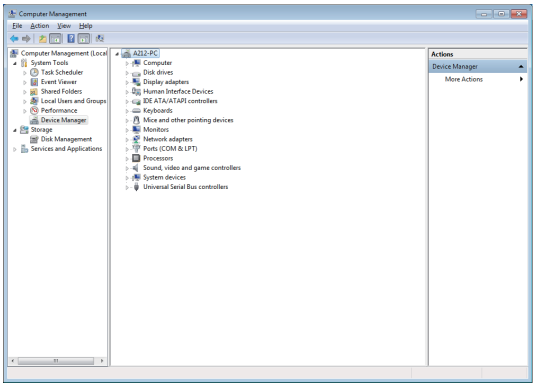

Intel(R) PROSet/Wireless WiFi Software
License Agreement
Please read the following license agreement carefully.
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
The terms of the License Agreement delivered with the software and any associated materials (collectively, the "Software") you download controls your use of the software.
If no License Agreement is delivered with the Software, the terms and conditions of the Intel Software License Agreement contained herein controls your use of the Software.
INTEL SOFTWARE LICENSE AGREEMENT
I accept the terms in the license agreement
I do not accept the terms in the license agreement
Print
InstallShield
< Back
Next >
Cancel


Intel(R) PROSet/Wireless WiFi Software
Destination Folder
Click Next to install to this folder, or click Change to install to a different folder.
Install Intel(R) PROSet/Wireless WiFi Software to:
C:\Program Files\Intel\
Change...
InstallShield
< Back
Next >
Cancel


Intel(R) PROSet/Wireless WiFi Software
Setup Type
Choose the setup type that best suits your needs.
Please select a setup type.
Typical
Installs Intel(R) PROSet/Wireless core and support components for Intel(R) wireless adapter(s) installed in this computer. The Intel(R) wireless adapter(s) is not required for core component installation.
Custom
Choose the program features you want installed and where to install them. Recommended for advanced users.
InstallShield
< Back
Next >
Cancel


Intel(R) PROSet/Wireless WiFi Software
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed Intel(R) PROSet/Wireless WiFi Software. Click Finish to exit the wizard.
< Back
Finish
Cancel

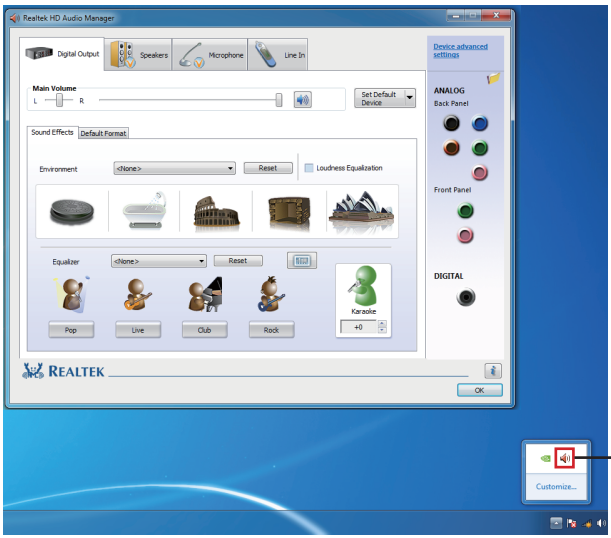
At last, you can enter Computer Management that provides information about the hardware devices on this motherboard to check if the driver installation is complete.



Realtek HD Audio Driver Setup

Getting Started

After Realtek HD Audio Driver being installed (insert the driver dsk and follow the on-screen instructions), “Realtek HD Audio Manager” icon will show in System tray as below. Double click the icon and the control panel will appear:



Digital Output

After clicking on the “Sound Effect” tab, 3 sections “Environment”, “Equalizer” and “Karaoke” are available for selection.

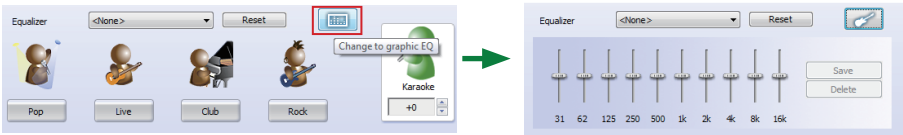
Environment Simulation

You will be able to enjoy different sound experience by pulling down the arrow, totally 23 kinds of sound effect will be shown for selection. Realtek HD Audio Sound Manager also provides five popular settings “Sewer pipe”, “Bathroom”, “Arena”, “Stone Room”, and “Auditorium” for quick enjoyment.

Equalizer Selection

Change to graphic EQ by clicking on the Equalizer icon . The Equalizer section allows you to create your own preferred settings by utilizing this tool.

In standard 10 bands of equalizer, ranging from 31Hz to 16kHz are available:



Frequently Used Equalizer Setting

Realtek recognizes the needs that you might have. By leveraging our long experience at audio field, Realtek HD Audio Sound Manager provides you certain optimized equalizer settings that are frequently used for your quick enjoyment.

How to Use

Other than the buttons “Pop” “Live” “Club” & “Rock” shown on the page, to pull down the arrow in “Others” , you will find more optimized settings available to you.

Karaoke Mode

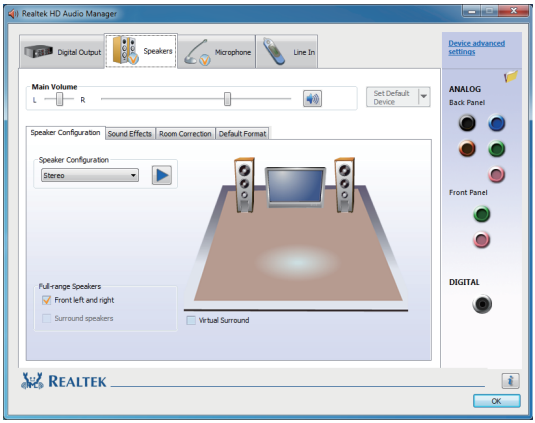
Karaoke mode brings Karaoke fun back home by simply using the music you usually play, Karaoke mode can help you eliminate the vocal of the song or adjust the key to accommodate your range.

Vocal Cancellation: Single click on “Voice Cancellation”, the vocals of the songs will be erased, while the background music is still playing which lets you take over the vocal part.

Key Adjustment: Using “Up/Down Arrow” to find a key which better fits your vocal range.

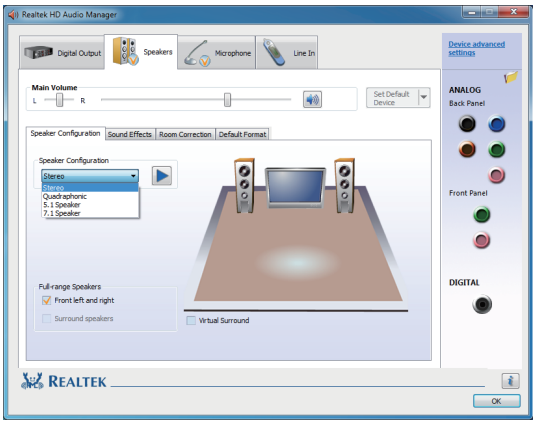
Speakers

Realtek HD Audio Manager frees you from default speaker settings. Speakers includes four tabs: Speaker Configuration, Sound Effects, Room Correction and Default Format.



Speaker Configuration

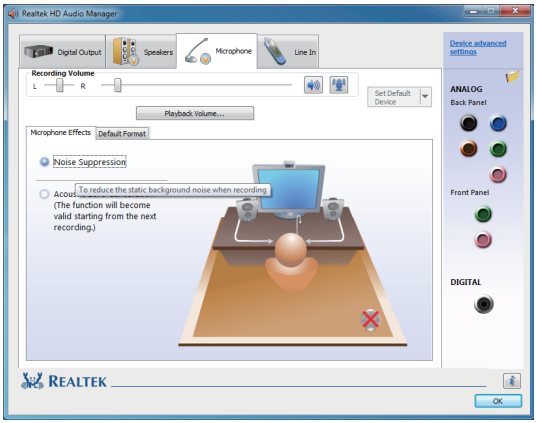
In this tab, you can choose speaker configuration: Stereo, Quadraphonic, 5.1 Speaker or 7.1 Speaker using “Up/Down Arrow”.



Microphone

This page is designed to provide you better microphone/recording quality.

Below picture indicates both “Noise Suppression” & “Acoustic Echo Cancellation” are both enabled.



Noise Suppression

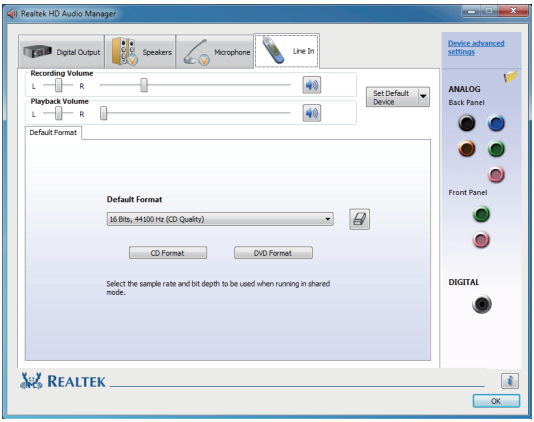
If you feel that the background noise, especially the sound generated from the fan inside PC, is too loud? Try “Noise Suppression”, which allows you to cut off and suppress disturbing noise.

Acoustic Echo Cancellation

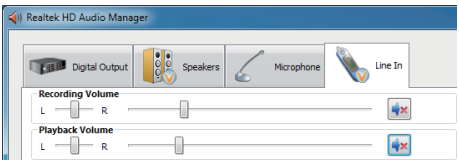
This function prevents playback sound from being recorded by microphone together with your sound. For example, you might have chance to use VOIP function through Internet with your friends. The voice of your friend will come out from speakers (playback). However, the voice of your friend might also be recorded into your microphone then go back to your friend through Internet. In that case, your friend will hear his/her own voice again. With AEC (Acoustic Echo Cancellation) enabled at your side, your friend can enjoy the benefit with less echo.

Line In

Realtek HD Audio Manager integrates “Volume Control” functions into the Line In page. This gives you the advantage to you to create your favorite sound effect in one single tool.

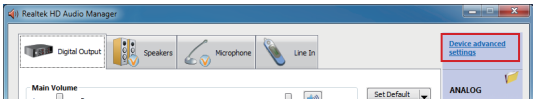


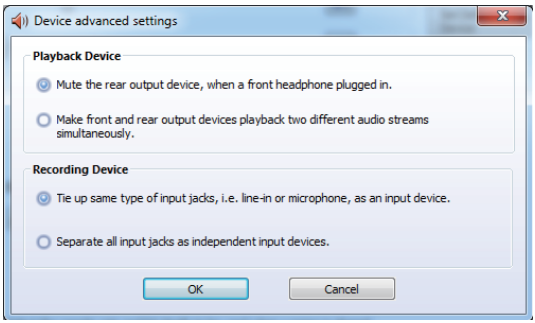
Single click on the volume icon , the Recording/Playback Volume will be changed to the mute mode.



Device Advanced Settings

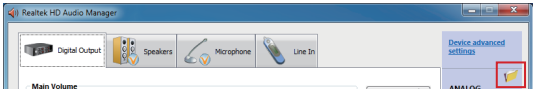
Click on “Device advanced settings” at the upper right corner of Realtek HD Audio Manager page, and you can set the playback device and recording device as below.

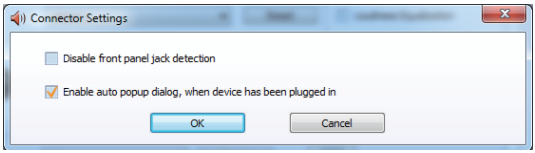



Device advanced settings
Playback Device
Mute the rear output device, when a front headphone plugged in.
Make front and rear output devices playback two different audio streams simultaneously.
Recording Device
Tie up same type of input jacks, i.e. line-in or microphone, as an input device.
Separate all input jacks as independent input devices.
OK
Cancel

Connector Settings

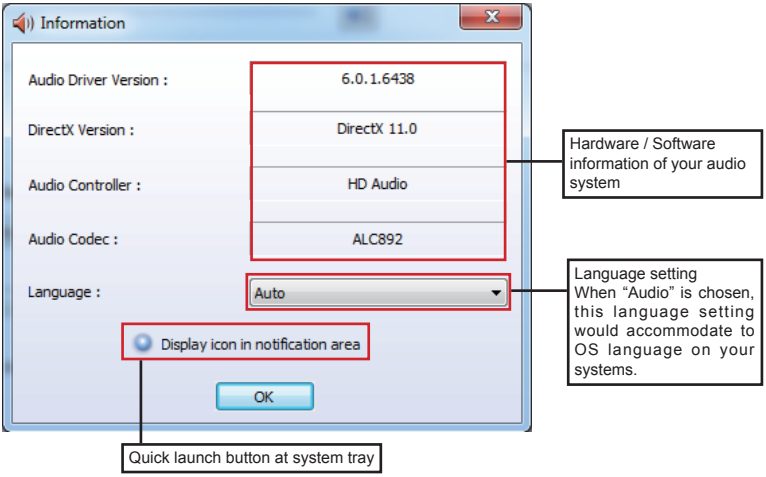
Click on the icon on the main page of Realtek HD Audio Manager, and the Connector Settings dialog will display. There are two settings: “Disable front panel jack detection” and “Enable auto popup dialog, when device has been plugged in”. After changing the settings, click “OK” to confirm.





Information

Click on the icon at the lower right corner of Realtek HD Audio Manager page, the Realtek HD Audio information will display.



This section provides information about your current system audio device.

☞ The screenshots shown in this section are for Windows® 7 operating system.

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